

DOCKET NO. 329368-101A
SERIAL NO. 08/854,825

1) said [polypeptide] selected CTL epitope is DLMGY1PLV (Core₁₃₂₋₁₄₀; SEQ ID NO:54), then said molecule comprises at most nine amino acids.

2) 52. (Twice Amended) A method of stimulating a cytotoxic T-lymphocyte (CTL) response to an hepatitis C viral immunogen, comprising contacting an HLA class I-restricted cytotoxic T lymphocyte with a composition comprising a peptide that induces an hepatitis C virus (HCV)-specific response in cytotoxic T lymphocytes [having] comprising a sequence that has no more than a total of two single amino acid substitutions, deletions or insertions at the corresponding positions as in a CTL epitope which is ADLMGY1PLV (Core₁₃₁₋₁₄₀; SEQ ID NO:1), LLALLSCLTV (Core₁₇₈₋₁₈₇; SEQ ID NO:2), QLRRHIDLLV (E₁₂₅₇₋₂₆₆; SEQ ID NO: 3), KLVALGINAV (NS₃₁₄₀₆₋₁₄₁₅; SEQ ID NO:28), or LLFNILGGWV (NS₄₁₈₀₇₋₁₈₁₆; SEQ ID NO:35) or has no more than a total of one single amino acid substitution, deletion or insertion at the corresponding amino acid positions as in a CTL epitope which is ADLMGY1PLV (Core₁₃₁₋₁₄₀; SEQ ID NO:1), DLMGY1PLV (Core₁₃₂₋₁₄₀; SEQ ID NO:54), LLCPAGHAV (NS₃₁₁₆₉₋₁₁₇₇; SEQ ID NO:26), SLMAFTAAV (NS₄₁₇₈₉₋₁₇₉₇; SEQ ID NO:34), or ILDSFDPLV (NS₅₂₂₅₂₋₂₂₆₀; SEQ ID NO:42).

3) 56. (Twice Amended) A method of detecting cytotoxic T cells that respond to a T cell epitope of hepatitis C virus (HCV), the method comprising the steps of:

(a) preparing HLA class I-restricted cytotoxic T cells;
(b) preparing HLA class-I matched and -mismatched target cells;
(c) containing separately matched and mismatched target cells with a composition comprising a peptide that induces an HCV-specific response in cytotoxic T lymphocytes having the sequence that has no more than a total of two single amino acid substitutions, deletions or insertions at the corresponding positions as in a CTL epitope which is ADLMGY1PLV (Core₁₃₁₋₁₄₀; SEQ ID NO:1), LLALLSCLTV (Core₁₇₈₋₁₈₇; SEQ ID NO:2), QLRRHIDLLV (E₁₂₅₇₋₂₆₆; SEQ ID NO: 3), KLVALGINAV (NS₃₁₄₀₆₋₁₄₁₅; SEQ ID NO:28), or LLFNILGGWV (NS₄₁₈₀₇₋₁₈₁₆; SEQ ID NO:35) or has no more than a total of one single amino acid substitution, deletion or insertion at the corresponding amino acid positions as in a CTL epitope which is DLMGY1PLV

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(Core₁₃₂₋₁₄₀; SEQ ID NO:54), LLCPAGHAV (NS₃₁₁₆₉₋₁₁₇₇; SEQ ID NO:26), SLMAFTAAV (NS₄₁₇₈₉₋₁₇₉₇; SEQ ID NO:34), or ILDSFDPLV (NS₅₂₂₅₂₋₂₂₆₀; SEQ ID NO:42);

(d) combining the cytotoxic T cells separately with the matched and mismatched target cells; and

(e) measuring cytolysis.

58. (Twice Amended) A pharmaceutical composition comprising a peptide that induces an hepatitis C virus (HCV)-specific response in cytotoxic T lymphocytes having a sequence that has no more than a total of two single amino acid substitutions, deletions or insertions at the corresponding positions as in a CTL epitope which is ADLMGYIPLV (Core₁₃₁₋₁₄₀; SEQ ID NO:1), LLALLSCLTV (Core₁₇₈₋₁₈₇; SEQ ID NO:2), QLRRHIDLLV (E₁₂₅₇₋₂₆₆; SEQ ID NO: 3), KLVALGINAV (NS₃₁₄₀₆₋₁₄₁₅; SEQ ID NO:28), or LLFNILGGWV (NS₄₁₈₀₇₋₁₈₁₆; SEQ ID NO:35) or has no more than a total of one single amino acid substitution, deletion or insertion at the corresponding amino acid positions as in a CTL epitope which is DLMGYIPLV (Core₁₃₂₋₁₄₀; SEQ ID NO:54), LLCPAGHAV (NS₃₁₁₆₉₋₁₁₇₇; SEQ ID NO:26), SLMAFTAAV (NS₄₁₇₈₉₋₁₇₉₇; SEQ ID NO:34), or ILDSFDPLV (NS₅₂₂₅₂₋₂₂₆₀; SEQ ID NO:42), and a pharmaceutically acceptable carrier.

60. (Amended) A conjugate comprising

(a) a molecule which comprises:

a polypeptide an having no more than a total of two single amino acid substitutions, deletions or insertions at the corresponding positions as in a CTL epitope which is ADLMGYIPLV (Core₁₃₁₋₁₄₀; SEQ ID NO:1), LLALLSCLTV (Core₁₇₈₋₁₈₇; SEQ ID NO:2), QLRRHIDLLV (E₁₂₅₇₋₂₆₆; SEQ ID NO: 3), KLVALGINAV (NS₃₁₄₀₆₋₁₄₁₅; SEQ ID NO:28), LLFNILGGWV (NS₄₁₈₀₇₋₁₈₁₆; SEQ ID NO:35) or has no more than a total of one single amino acid substitution, deletion or insertion at the corresponding amino acid positions as in a CTL epitope which is DLMGYIPLV (Core₁₃₂₋₁₄₀; SEQ ID NO:54), LLCPAGHAV (NS₃₁₁₆₉₋₁₁₇₇;

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SEQ ID NO:26), SLMAFTAAV (NS4₁₇₈₉₋₁₇₉₇; SEQ ID NO:34), or
ILDSFDPLV (NS5₂₂₅₂₋₂₂₆₀; SEQ ID NO:42);, and

(b) a substance selected from the group consisting of a radiolabel, an enzyme, a fluorescent label, a solid matrix, a carrier and an additional molecule of (a).

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62. (Amended) A conjugate of claim 60 comprising two molecules, each comprising: a polypeptide no more than a total of two single amino acid substitutions, deletions or insertions at the corresponding positions as in a CTL epitope which is ADLMGYIPLV (Core₁₃₁₋₁₄₀; SEQ ID NO:1), LLALLSCLTV (Core₁₇₈₋₁₈₇; SEQ ID NO:2), QLRRHIDLLV (E1₂₅₇₋₂₆₆; SEQ ID NO: 3), KLVALGINAV (NS3₁₄₀₆₋₁₄₁₅; SEQ ID NO:28), LLFNLGGWV (NS4₁₈₀₇₋₁₈₁₆; SEQ ID NO:35) or has no more than a total of one single amino acid substitution, deletion or insertion at the corresponding amino acid positions as in a CTL epitope which is DLMGYIPLV (Core₁₃₂₋₁₄₀; SEQ ID NO:54), LLCPAGHAV (NS3₁₁₆₉₋₁₁₇₇; SEQ ID NO:26), SLMAFTAAV (NS4₁₇₈₉₋₁₇₉₇; SEQ ID NO:34), or ILDSFDPLV (NS5₂₂₅₂₋₂₂₆₀; SEQ ID NO:42) [,].

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Please enter the following new claims:

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-- 65. (New) An isolated molecule comprising a polypeptide that induces an hepatitis C virus (HCV)-specific response in cytotoxic T lymphocytes having a sequence that has
(a) no more than a total of two single amino acid substitutions, deletions or insertions at the corresponding amino acid positions in a CTL epitope which is LLALLSCLTV (Core₁₇₈₋₁₈₇; SEQ ID NO:2), QLRRHIDLLV (E1₂₅₇₋₂₆₆; SEQ ID NO:3), KLVALGINAV (NS3₁₄₀₆₋₁₄₁₅; SEQ ID NO:28), or LLFNLGGWV (NS4₁₈₀₇₋₁₈₁₆; SEQ ID NO:35), or
(b) has no more than one single amino acid substitution, deletion or insertion at the corresponding amino acid positions as in a CTL epitope which is ADLMGYIPLV (Core₁₃₁₋₁₄₀; SEQ ID NO:1), DLMGYIPLV (Core₁₃₂₋₁₄₀; SEQ ID NO:54), LLCPAGHAV (NS3₁₁₆₉₋₁₁₇₇; SEQ ID NO:26), SLMAFTAAV (NS4₁₇₈₉₋₁₇₉₇; SEQ ID NO:34), or ILDSFDPLV (NS5₂₂₅₂₋₂₂₆₀; SEQ ID NO:42),